REMARKS

Claims 1-30 are pending in the application, of which, claims 1, 13, 15, 27, 29 and 30 are independent. Claims 1, 4, 5, 11-13, 15, 18, 19, 27, 29 and 30 are amended. No new matter has been introduced. Amendments to the claims are for reasons unrelated to patentability.

Examiner Interview

A telephonic interview was conducted between the Applicants' representative, F. Sirjani, and the Examiner in this case on April 21, 2008. Applicants thank the Examiner for granting and conducting the interview. The Examiner agreed that the amendments overcome the cited art, but indicated his wish to conduct a new search.

Claim Rejections Under 35 U.S.C. §102(b)

Claims 13, 14, 27 and 28 are rejected under 35 U.S.C. §102(b) as being allegedly anticipated by Shriberg et al. (Can Prosody Aid the Automatic Classification of Dialog Acts in Conversational Speech?) published in 1998.

Applicants respectfully traverse this rejection in view of the following arguments.

Claim 13

Claim 13 recites "A method of synthesizing speech using discourse function level prosodic features comprising the steps of: determining input text; determining discourse functions in the input text based on a contextually aware theory of discourse analysis using a mapping between basic discourse constituents of the contextually aware theory of discourse analysis and a plurality of discourse functions; determining a model of discourse function level prosodic features; and determining adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features." (Emphasis added.)

The Office action cites to Shriberg, page 5, for allegedly teaching a method of synthesizing speech. (Office action, p. 3.)

Applicants submit that, while mentioning speech synthesis on page 5, Shriberg is not about speech synthesis. Specifically, Shriberg teaches: "Fourth, an understanding of prosodic properties of different utterance types can lead to more natural output from speech synthesis systems." (Shriberg, p. 5, lines 5-7.) On the other hand, the Abstract of Shriberg states "Identifying whether an utterance is a statement, question, greeting, and so forth is integral to effective automatic understanding of natural dialog.... This study asks whether current approaches, which use mainly word information, could be improved by adding prosodic information." (Shriberg, p. 3, lines 1-4; emphasis added.) Applicants submit that it does not appear that other than the sole mention on page 5, Shriberg includes any enabling description of, or even any other reference to speech synthesis.

As such, Applicants submit that Shriberg does not appear to teach or suggest "A method of synthesizing speech ... determining adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features." (Emphasis added.) There is no description of any particular type of speech synthesis in Shriberg and therefore, there is no teaching of adjusting of the synthesized speech.

For this reason, claim 1 is not believed to be anticipated by Shriberg.

Further, as explained below, Chino does not cure the deficiency of Shriberg and claim 1 remains patentable in view of both references taken alone or in combination.

Claim 27

Claim 27 recites "A system for synthesizing speech using discourse function level prosodic features comprising ... a processor that determines ... adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features."

As explained above, Shriberg does not include an enabling description of any particular type of speech synthesis and does not go beyond a mere general mention to speech synthesis.

As such claim 27 is not believed to be anticipated by Shriberg.

Further, as explained below, Chino does not cure the deficiency of Shriberg and claim 27 remains patentable in view of both references alone or in combination.

Claim Rejections Under 35 U.S.C. §103

Claims 1-12, 15-26 and 29-30 are rejected under 35 U.S.C. §103 as being allegedly unpatentable over Shriberg in view of Chino (U.S. Patent No. 5,761,637).

Applicants respectfully traverse this rejection in view of the following arguments.

Claim 1

Claim 1 recites "A method of synthesizing speech using discourse function level prosodic features comprising the steps of: determining a theory of discourse analysis from a plurality of theories of discourse analysis; determining input text; determining discourse functions in the input text, the discourse functions being determined based on a mapping between basic discourse constituents of the determined theory of discourse analysis and a plurality of discourse functions; determining a model of discourse function level prosodic features; and determining adjusted synthesized speech output based on the discourse functions in the input text and the model of discourse function level prosodic features." (Emphasis added.)

The Office action cites to Shriberg for alleged teaching all elements of claim 1 except for "determining a theory of discourse analysis from a plurality of theories of discourse analysis" which according to the Office action is disclosed in Chino col. 1, lines 41-49 and col. 6, lines 13-60 and in figure 7 of this reference. (Office action, p. 4.)

As explained above, Shriberg is not about speech synthesis and but for a passing mention to speech synthesis, does not include any enabling disclosure of any particular method of speech synthesis and does not teach or suggest "determining adjusted synthesized speech output based on the discourse functions in the input text and the model of discourse function level prosodic features" of claim 1.

Further, Chino is also not about speech synthesis. Chino discloses a "dialogue-sound processing apparatus" and it is not about speech synthesis. (Chino, title.) One of the cited portions of Chino refers to using context information and utterance-intention (col. 1, lines 40-49) to improve natural language processing. The other cited portion (Col. 6, lines 13-60) provides a description of figure 7 of Chino that shows an exemplary discourse structure. This discourse structure appears to be annotated with prosodic clues such as turns and rise-intonations. These clues are there to aid the speech recognition; they do not appear to be there for speech synthesis.

Applicants acknowledge that Chino is not cited for teaching "determining adjusted synthesized speech" of claim 1. However, there is no indication in Chino that these clues can be translated into sound or go the further step of "determining adjusted synthesized speech" of claim 1. As such, Chino does not cure the deficiency of Shriberg with respect to teaching or suggesting "determining adjusted synthesized speech output based on the discourse functions in the input text and the model of discourse function level prosodic features" of claim 1.

Accordingly, Shriberg and Chino, alone or in combination, do not teach or suggest all elements of claim 1. As such, claim 1 is believed to remain patentable in view of these references.

Claim 15

Claim 15 recites "A system for synthesizing speech using discourse function level prosodic features comprising ... a processor that ... determines adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features."

As explained above, Shriberg does not teach or suggest a method or a system or a processor that "determines adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features." Chino does not cure the deficiency of Shriberg.

Accordingly, Shriberg and Chino, alone or in combination, do not teach or suggest all elements of claim 15. As such, claim 15 is believed to remain patentable in view of these references.

Claim 29

Claim 29 recites "A carrier wave encoded to transmit a control program, useable to program a computer to synthesize speech using discourse level prosodic features, to a device for executing the program, the control program comprising ... instructions for determining adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features."

As explained above, Shriberg does not teach or suggest "instructions for determining adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features." Chino does not cure the deficiency of Shriberg.

Accordingly, Shriberg and Chino, alone or in combination, do not teach or suggest all elements of claim 29. As such, claim 29 is believed to remain patentable in view of these references.

Claim 30

Claim 30 recites "Computer readable storage medium comprising: computer readable program code embodied on the computer readable storage medium, the computer readable program code usable to program a computer to synthesize speech using discourse level prosodic features comprising the steps of ... determining adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features."

As explained above, Shriberg does not teach or suggest "determining adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features." Chino does not cure the deficiency of Shriberg.

Accordingly, Shriberg and Chino, alone or in combination, do not teach or suggest all elements of claim 29. As such, claim 29 is believed to remain patentable in view of these references.

Dependent Claims

Claims 2-12 depend from claim 1; claim 14 depends from claim 13; claims 16-26 depend from claim 15; and claim 28 depends from claim 27.

With respect to the rejection of dependent claims, while continuing to traverse the Examiner's characterization of the teachings of the references used by the Examiner in rejecting these claims, Applicants respectfully submit that these claims are patentable by definition, by virtue of their dependence upon their respective patentable independent claims.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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